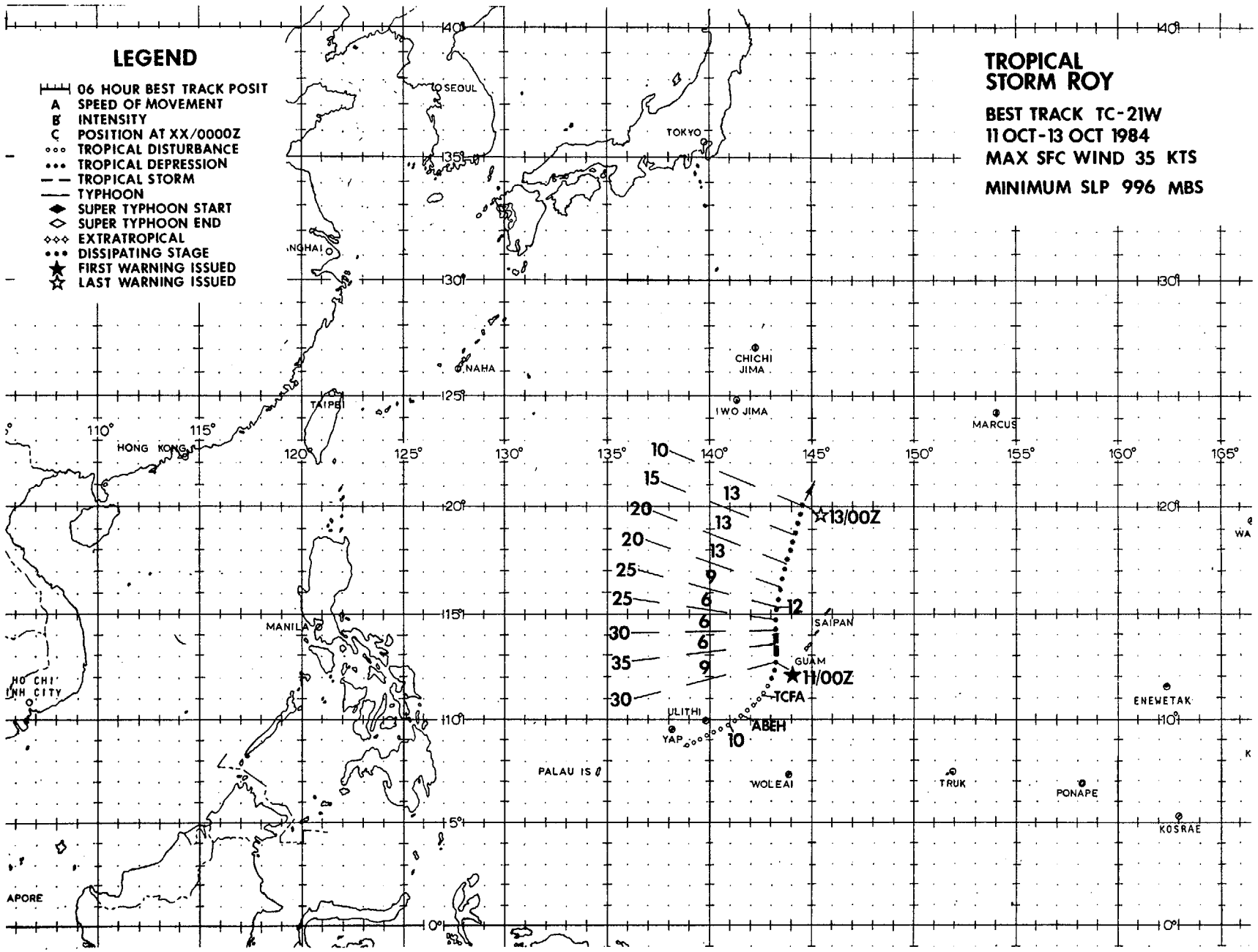
LEGEND
06 HOUR BEST TRACK POSIT
A SPEED OF MOVEMENT
B INTENSITY
C POSITION AT XX/0000Z
TROPICAL DISTURBANCE
TROPICAL DEPRESSION
TROPICAL STORM
TYPHOON
SUPER TYPHOON START
SUPER TYPHOON END
EXTRATROPICAL
DISSIPATING STAGE
FIRST WARNING ISSUED
LAST WARNING ISSUED
TROPICAL STORM ROY
BEST TRACK TC-21W
11 OCT-13 OCT 1984
MAX SFC WIND 35 KTS
MINIMUM SLP 996 MBS
SEOUL
TOKYO
NAHA
CHICHI JIMA
IWO JIMA
MARCUS
TAIPEI
HONG KONG
MANILA
SAIPAN
GUAM
TCFA
ABEH
ULITHI
YAP
PALAU IS
WOLEAI
TRUK
PONAPE
KOSRAE
ENEWETAK
13/00Z
11/00Z
10
15
20
25
30
35
13
9
6
12
1
110°
115°
120°
125°
130°
135°
140°
145°
150°
155°
160°
165°
40°
35°
30°
25°
20°
15°
10°
5°

Tropical Storm Roy developed in the monsoon trough southwest of Guam at the same time that Typhoon Phyllis was developing further to the northeast. Despite forming in an area climatologically favorable for tropical cyclone development, Roy was unable to persist. Strong upper-level wind shear resulted in a rapid weakening and eventual dissipation of the storm after only two days in warning status.

Early on 9 October, a weak circulation was first analyzed in the monsoon trough southwest of Guam. Development of the disturbance was slow during the next twenty-four hours due to strong wind shear from the upper-level outflow of Typhoon Ogden. By early on the 10th, Ogden's influence had lessened which resulted in the convection over the disturbance increasing and becoming more organized. At 100400Z, Dvorak intensity analysis of the convective banding indicated that 25 kt (13 m/s) surface winds were present. This prompted the issuance of a TCFA at 100700Z.

During the development stage no upper-level anticyclone was detected over the disturbance, although the flow did become diffluent. As it turned out, Roy never developed an upper-level anticyclone. This inability to develop a good outflow pattern would ultimately be responsible for Roy's quick dissipation.

The first aircraft reconnaissance mission into the system found a small 1000 mb center at 110046Z located approximately 90 nm (167 km) west-southwest of Guam. Winds of 15 kt (8 m/s) were found around most of the center except for a small area of 30 kt (15 m/s) winds in the southeast quadrant. The aircraft position of the disturbance's center confirmed what satellite imagery indicated - that the system had turned to a more northerly heading from the steady northeast course of the previous two days. This meant Roy would pass safely to the west of Guam.

Based on the data obtained by reconnaissance aircraft and the expectation for further intensification, the first warning was issued at 110227Z, valid at 110000Z (Figure 3-21-1). Later that afternoon the second reconnaissance flight found Roy had indeed intensified. The MSLP had decreased to 998 mb and minimal tropical storm force winds existed 20 to 30 nm (37 to 56 km) from the center.

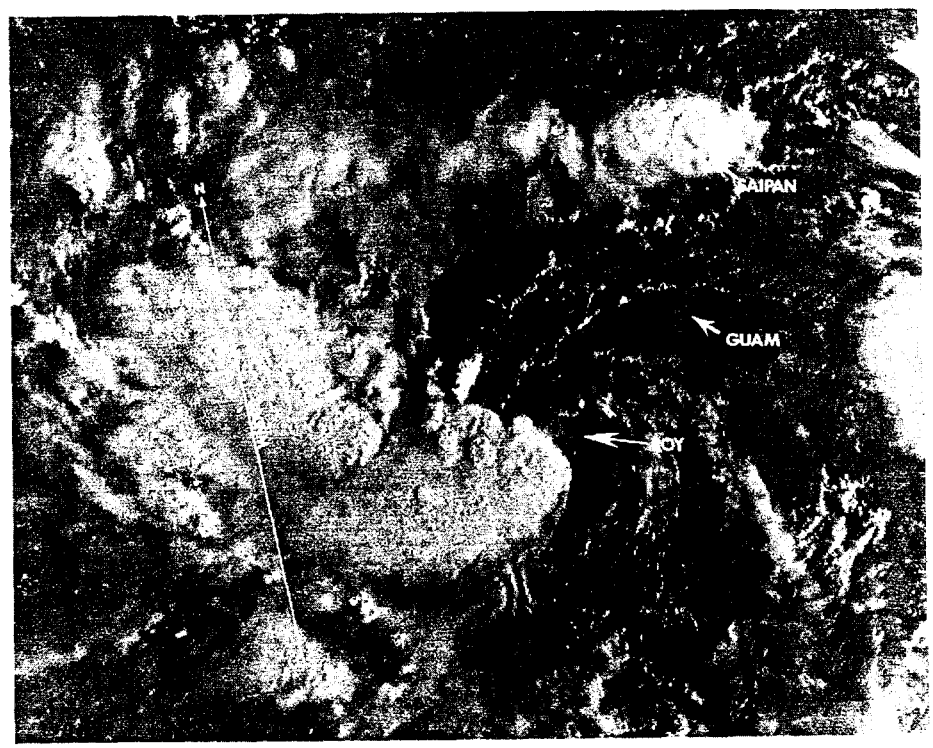

Figure 3-21-1. Roy just before the first warning was issued. The partially exposed low-level circulation center is visible on the eastern edge of the main convection. The island of Guam located 110 nm (204 km) to the northeast is completely cloud-free (1021522 October NOAA visual imagery).

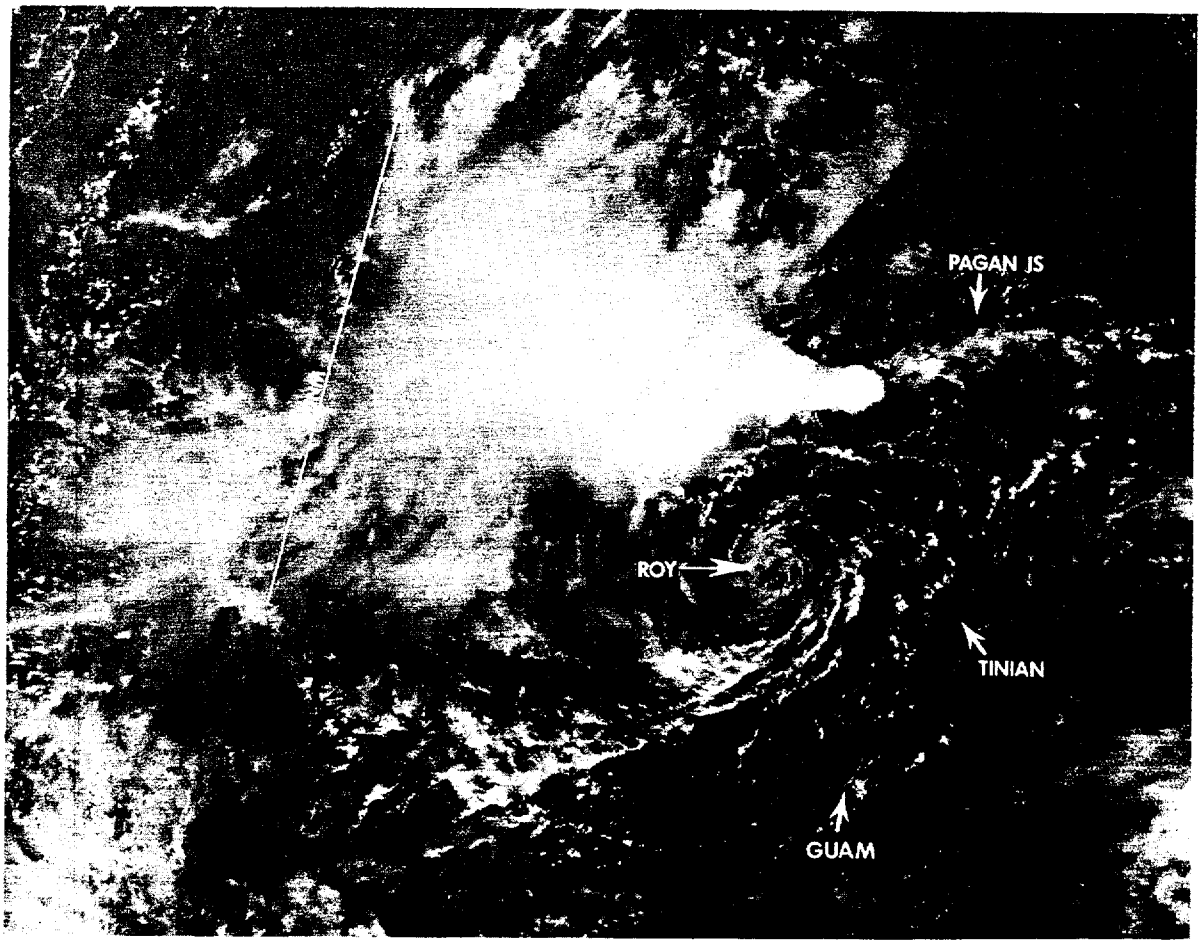

Figure 3-21-2. Tropical Storm Roy as an exposed low-level circulation center is located southeast of the convection (120002Z DMSP visual imagery).

As it turned out, these would be the strongest winds observed in Roy. Roy passed 80 nm (148 km) west of Guam as a minimal tropical storm, but caused no damage to the island. The Naval Oceanography Command Detachment (NOCD) at Brewer Field, NAS Agana, recorded maximum winds of only 14 kt (7 m/s) during Roy's passage.

As Roy moved to the north-northeast, strong easterlies from the synoptic scale anticyclone that was nearly co-located with the developing Typhoon Phyllis began to shear the storm. In addition, much of the monsoon flow which had earlier been directed into Roy was now feeding into the stronger Typhoon Phyllis. This began a weakening trend which continued until Roy's dissipation less than 36 hours later.

During the next twenty-four hours, Roy did make several attempts to redevelop its convection about the low-level circulation center, but due to the strong shear, every attempt was doomed to fail. By the 12th, Roy had become an exposed system with the overall convection decreasing (Figure 3-21-2). However, it was at this time that the lowest MSLP was observed. At 120531Z, reconnaissance aircraft recorded an MSLP of 996 mb. Despite the lower pressures, no surface winds above 20 kt (10 m/s) were reported.

Late on the 12th, the last mission into the dissipating Roy was flown. It was unable to locate any circulation center and observed surface winds of 5 to 15 kt (3 to 8 m/s). This prompted the final warning to be issued at 130000Z as Roy dissipated over water.